

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for plotting a network topology using a markup language, comprising the steps of:
 - retrieving first topology information from a data source in response to a request for a first graphic display, wherein the first topology information represents a first portion of a network topology that comprises graphical images that represent nodes and connections between nodes;
 - ~~receiving~~ converting the first topology information ~~as~~ into a markup language document ~~in response to a request for a first graphic display~~, wherein the markup language document is associated with a document type definition that defines how to process information in the markup language document to plot a graph based on the information;
 - plotting a graph of the first portion of the topology, based on the first topology information in the markup language document;
 - causing display of the graph of the first portion of the topology on a display device;
 - after causing display of the graph of the first portion of the topology, and in response to an interaction with a graphical image from the graph of the first portion of the topology, automatically retrieving second topology information from the data source, wherein the second topology information represents a second portion of the network topology; and
 - causing display of a graph of (a) at least a portion of the first portion based on the first topology information and (b) the second portion of the topology based on the

22 second topology information, without retrieving again the first topology
23 information from the data source and plotting again the graph of the first
24 portion of the topology.

1 2. (canceled)

1 3. (canceled)

1 4. (previously presented) The method of claim 1 wherein the first topology information
2 as the markup language document includes
3 image information for specifying a graphical image representing a focus entity for
4 plotting in the graph of the first portion of the topology,
5 label information for specifying a label associated with the graphical image for
6 plotting in the graph of the first portion of the topology,
7 connection information for specifying one or more connections between the graphical
8 image and one or more secondary graphical images; and
9 wherein the step of plotting the graph of the first portion of the topology is performed
10 based on the image information, the label information, and the connection
11 information.

1 5. (previously presented) The method of claim 4 wherein the step of plotting the graph
2 of the first portion of the topology is performed according to a display arrangement in
3 which the graphical image is substantially centered on the display device with the one
4 or more secondary graphical images connected to the graphical image in a generally
5 circular pattern.

1 6. (previously presented) The method of claim 4 wherein the first topology information
2 as the markup language document further includes one or more of:

3 tool tip information for specifying information to display on the display device upon a
4 first interaction with the graphical image,
5 click action information for specifying an action to perform upon a second interaction
6 with the graphical image,
7 menu information for specifying a menu to display on the display device upon a third
8 interaction with the graphical image; and
9 wherein the step of receiving the first ~~graph~~ topology information is according to the
10 markup language document.

1 7. (previously presented) The method of claim 4 wherein the first topology information
2 as the markup language document further includes
3 menu information for specifying a menu to display on the display device upon a first
4 interaction with the one or more connections; and
5 wherein the step of receiving the first topology information is according to the
6 markup language document.

1 8. (previously presented) The method of claim 1 wherein the step of plotting the graph
2 of the first portion of the topology is performed according to one specified display
3 arrangement from a plurality of available display arrangements.

1 9. (currently amended) A method for displaying portions of a network topology,
2 comprising the steps of:
3 ~~receiving~~ converting network topology information into a first markup language
4 document, wherein the markup language document is associated with a
5 document type definition that defines how to process information in the
6 markup language document to plot a graph, wherein the markup language
7 document including includes

8 graph information specifying display attributes for plotting a first portion of
9 the network topology;
10 network node information, the node information including
11 image information for specifying a graphical image representing a first
12 node for display on a display device,
13 node label information for specifying a node label associated with the
14 graphical image for display on the display device,
15 network node connection information specifying a connection between
16 graphical images and representing a network link between the first
17 node and a second node;
18 plotting the first portion of the network topology based on the first markup language
19 document and associated document type definition;
20 displaying on the display device, as part of the first portion of the network topology,
21 the graphical image and the node label for the first node, according to the
22 node information and the graph information;
23 displaying on the display device, as part of the first portion of the network topology,
24 the connection between the graphical image representing the first node and at
25 least a second graphical image representing the second node, according to the
26 node connection information and the graph information;
27 after displaying the graphical image, the node label and the connection, and in
28 response to an interaction with a graph of the first portion of the network
29 topology, retrieving ~~receiving~~ a second markup language document associated
30 with the document type definition, wherein the second markup language
31 document corresponds to a second portion of the network topology; and

causing display of a graph of (a) at least a portion of the first portion and (b) the second portion, without again plotting the first portion of the network topology.

10. (original) The method of claim 9 wherein the network node information further includes one or more of the following:
tool tip information for specifying information to display on the display device upon a first interaction with the graphical image,
click action information for specifying an action to perform upon a second interaction with the graphical image,
menu information for specifying a menu to display on the display device upon a third interaction with the graphical image; and
the method further comprises the step of:
enabling functions initiated by each of the first interaction, the second interaction, and the third interaction.

11. (original) The method of claim 10 wherein the function initiated by the third interaction includes retrieving a file for displaying information about one or more network links between the first node and one or more nodes connected to the first node.

12. (original) The method of claim 10 wherein the function initiated by the third interaction includes retrieving a file for displaying information about one or more routers associated with the first node.

- 1 13. (original) The method of claim 10 wherein the function initiated by the third
2 interaction includes retrieving a file for displaying information about one or more
3 subnetworks associated with the first node.
- 1 14. (original) The method of claim 9 wherein the steps of displaying the graphical image
2 and the node label and displaying the connection are performed according to one
3 specified display arrangement from a plurality of available display arrangements.
- 1 15. (original) The method of claim 9 wherein the steps of displaying the graphical image
2 and the node label and displaying the connection are performed such that the
3 graphical image is substantially centered on the display element of the display device.
- 1 16. (original) The method of claim 9 wherein the step of displaying the graphical image
2 and the node label is performed such that graphical image size is related to the
3 number of connections to the graphical image.
- 1 17. (original) The method of claim 9 wherein the network node connection information
2 includes connection label information for specifying a label associated with the
3 connection and wherein the step of displaying the connection includes displaying the
4 connection label.
- 1 18. (original) The method of claim 17 wherein the connection label information includes
2 a cost parameter label that reflects the bandwidth capacity of the network link
3 represented by the connection.
- 1 19. (original) The method of claim 9 wherein the connection information includes
2 menu information for specifying a menu to display on the display device upon an
3 interaction with the connection; and
4 the method further comprises the step of:

5 enabling a function initiated by the interaction.

- 1 20. (currently amended) A computer-readable medium carrying one or more sequences of
2 instructions for plotting a network topology using a markup language, wherein
3 execution of the one or more sequences of instructions by one or more processors
4 causes the one or more processors to perform steps of:
5 retrieving first topology information from a data source in response to a request for a
6 first graphic display, wherein the first topology information represents a first
7 portion of a network topology that comprises graphical images that represent
8 nodes and connections between nodes;
9 ~~receiving~~ converting the first topology information ~~as~~ into a markup language
10 ~~document in response to a request for a first graphic display~~, wherein the
11 markup language document is associated with a document type definition that
12 defines how to process information in the markup language document to plot a
13 graph based on the information;
14 plotting a graph of the first portion of the topology, based on the first topology
15 information in the markup language document;
16 causing display of the graph of the first portion of the topology on a display device;
17 after causing display of the graph of the first portion of the topology, and in response
18 to an interaction with a graphical image from the graph of the first portion of
19 the topology, automatically retrieving second topology information from the
20 data source, wherein the second topology information represents a second
21 portion of the network topology; and
22 causing display of a graph of (a) at least a portion of the first portion based on the first
23 topology information and (b) the second portion of the topology based on the
24 second topology information, without retrieving again the first topology

25 information from the data source and plotting again the graph of the first
26 portion of the topology.

1 21. (previously presented) The computer-readable medium of claim 20 wherein the first
2 topology information as the markup language document includes
3 image information for specifying a graphical image representing a focus entity for
4 plotting in the graph of the first portion of the topology,
5 label information for specifying a label associated with the graphical image for
6 plotting in the graph of the first portion of the topology,
7 connection information for specifying one or more connections between the graphical
8 image and one or more secondary graphical images; and
9 wherein execution of the one or more sequences of instructions by one or more
10 processors causes the one or more processors to perform the step of plotting
11 the graph of the first portion of the topology based on the image information,
12 the label information, and the connection information.

1 22. (currently amended) A computer-readable medium carrying one or more sequences of
2 instructions for displaying portions of a network topology, wherein execution of the
3 one or more sequences of instructions by one or more processors causes the one or
4 more processors to perform steps of:
5 ~~receiving~~ converting network topology information into a first markup language
6 document, wherein the markup language document is associated with a
7 document type definition that defines how to process information in the
8 markup language document to plot a graph, wherein the markup language
9 document ~~including~~ includes

graph information specifying display attributes for plotting a first portion of
the network topology;
network node information, the node information including
image information for specifying a graphical image representing a first
node for display on a display device,
node label information for specifying a node label associated with the
graphical image for display on the display device,
network node connection information specifying a connection between
graphical images and representing a network link between the first
node and a second node;
plotting the first portion of the network topology based on the first markup language
document and associated document type definition;
displaying on the display device, as part of the first portion of the network topology,
the graphical image and the node label for the first node, according to the
node information and the graph information;
displaying on the display device, as part of the first portion of the network topology,
the connection between the graphical image representing the first node and at
least a second graphical image representing the second node, according to the
node connection information and the graph information;
after displaying the graphical image, the node label and the connection, and in
response to an interaction with a graph of the first portion of the network
topology, retrieving ~~receiving~~ a second markup language document associated
with the document type definition, wherein the second markup language
document corresponds to a second portion of the network topology; and

34 causing display of a graph of (a) at least a portion of the first portion and (b) the
35 second portion, without again plotting the first portion of the network
36 topology.

1 23. (original) The computer-readable medium of claim 22 wherein the network node
2 connection information includes connection label information for specifying a label
3 associated with the connection and wherein execution of the one or more sequences
4 of instructions by one or more processors causes the one or more processors to
5 perform the step of displaying the connection including displaying a label
6 representing a cost parameter that reflects the bandwidth capacity of the network link
7 associated with the connection.

1 24. (currently amended) A computer system comprising:
2 a network interface;
3 a memory; and
4 one or more processors connected to the network interface, the one or more
5 processors configured for
6 retrieving first topology information from a data source in response to a
7 request for a first graphic display, wherein the first topology
8 information represents a first portion of a network topology that
9 comprises graphical images that represent nodes and connections
10 between nodes;
11 ~~receiving~~ converting the first topology information ~~as~~ into a markup language
12 document ~~in response to a request for a first graphic display~~, wherein
13 the markup language document is associated with a document type

14 definition that defines how to process information in the markup
15 language document to plot a graph based on the information;
16 plotting a graph of the first portion of the topology, based on the first topology
17 information in the markup language document;
18 causing display of the graph of the first portion of the topology on a display
19 device;
20 after causing display of the graph of the first portion of the topology, and in
21 response to an interaction with a graphical image from the graph of the
22 first portion of the topology, automatically retrieving second topology
23 information from the data source, wherein the second topology
24 information represents a second portion of the network topology; and
25 causing display of a graph of (a) at least a portion of the first portion based on
26 the first topology information and (b) the second portion of the
27 topology based on the second topology information, without retrieving
28 again the first topology information from the data source and plotting
29 again the graph of the first portion of the topology.

- 1 25. (currently amended) An apparatus for displaying a network topology, the apparatus
2 comprising:
3 means for receiving-converting network topology information into a first markup
4 language document, wherein the markup language document is associated
5 with a document type definition that defines how to process information in the
6 markup language document to plot a graph, wherein the markup language
7 document ~~including~~ includes
8 graph information specifying display attributes for plotting a first portion of
9 the network topology;

network node information, the node information including
image information for specifying a graphical image representing a first
node for display on a display device,
node label information for specifying a node label associated with the
graphical image for display on the display device,
network node connection information specifying a connection between
graphical images and representing a network link between the first
node and a second node;
means for plotting the first portion of the network topology based on the first markup
language document and associated document type definition;
means for displaying on the display device, as part of the first portion of the network
topology, the graphical image and the node label for the first node, according
to the node information and the graph information;
means for displaying on the display device, as part of the first portion of the network
topology, the connection between the graphical image representing the first
node and at least a second graphical image representing the second node,
according to the node connection information and the graph information;
means for ~~receiving~~ retrieving a second markup language document associated with
the document type definition after displaying the graphical image, the node
label and the connection, and in response to an interaction with the graphical
image representing the first node, wherein the second markup language
document corresponds to a second portion of the network topology; and
means for causing display of a graph of (a) at least a portion of the first portion and
(b) the second portion, without again plotting the first portion of the network
topology.

- 1 26. (canceled)
- 1 27. (canceled)
- 1 28. (canceled)
- 1 29. (canceled)
- 1 30. (canceled)
- 1 31. (canceled)
- 1 32. (canceled)
- 1 33. (canceled)
- 1 34. (canceled)
- 1 35. (new) An apparatus for displaying a network topology, the apparatus comprising:
2 means for retrieving first topology information from a data source in response to a
3 request for a first graphic display, wherein the first topology information
4 represents a first portion of a network topology that comprises graphical
5 images that represent nodes and connections between nodes;
6 means for converting the first topology information into a markup language
7 document, wherein the markup language document is associated with a
8 document type definition that defines how to process information in the
9 markup language document to plot a graph based on the information;
10 means for plotting a graph of the first portion of the topology, based on the first
11 topology information in the markup language document;

12 means for causing display of the graph of the first portion of the topology on a display
13 device;
14 means for automatically retrieving second topology information from the data source
15 after causing display of the graph of the first portion of the topology and in
16 response to an interaction with a graphical image from the graph of the first
17 portion of the topology, wherein the second topology information represents a
18 second portion of the network topology; and
19 means for causing display of a graph of (a) at least a portion of the first portion based
20 on the first topology information and (b) the second portion of the topology
21 based on the second topology information, without retrieving again the first
22 topology information from the data source and plotting again the graph of the
23 first portion of the topology.